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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,011	07/03/2002	Gilbert Wolrich	10559-312US1	5760

20985 7590 12/22/2004

FISH & RICHARDSON, PC
12390 EL CAMINO REAL
SAN DIEGO, CA 92130-2081

EXAMINER

TREAT, WILLIAM M

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/070,011	Applicant(s) WOLRICH ET AL.	
	Examiner William M. Treat	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/13/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-36 are presented for examination.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. Applicants claim in claim 1 and its dependent claims 2-29: “one of the instructions causing the ALU to issue a memory reference to an address in a memory shared among threads executing in the microengines while a context of a thread is inactive.” This seems to be a reference to the memory reference instruction capability derived from the “ctx_swap” parameter. In all instances where the ctx_swap parameter’s function is described (p. 12, lines 23-24 of PCT/US00/24095; p. 19, lines 15-16; and p. 23, lines 30-31), applicants use the following language” “The ‘ctx_swap’ parameter indicates when the memory reference is issued, swap out the current thread execution to let another thread run.” In other words, applicants’ specification teaches issuing the memory reference instruction of a thread to an address in a memory shared among threads executing in the microengines while the context of thread is active and then inactivating the thread. The memory reference instruction of the thread is not issued while the thread is inactive as applicants are claiming, and there is no enablement for such a claim in applicants’ specification.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. See paragraph 4, *supra*, for a relevant explanation of the deficiency.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-23, 26, and 30-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Agarwal et al. (APRIL: A Processor Architecture for Multiprocessing).

10. The reasons for rejecting claims 1-23, 26, and 30-36 in the examiner's previous action, as being anticipated by Agarwal, continue and are hereby incorporated by reference.

11. Applicant's arguments filed 10/4/2004 have been fully considered but they are not persuasive.

12. Applicants have argued on behalf of claim 1 that Agarwal does not teach "issue a memory reference to an address in a memory in a memory shared among threads executing in the microengines while a context of a thread is inactive." As noted in paragraph 4, *supra*, the examiner does not think even applicants teach what is claimed but instead are referencing the capability afforded by the ctx-swap parameter which does not work as claimed. However, if applicants are merely claiming a microengine/microprocessor can issue such a memory reference for a thread while some other thread on some other microprocessor is inactive, Agarwal certainly

taught that (pp. 104-106, Sections 2 and 3). Note that Agarwal describes a multiple node processor with each node containing a microprocessor/microengine based on Sun Microsystem's SPARC processor, with each SPARC processor capable of supporting four hardware contexts/threads, and with threads capable of making memory requests to the distributed, globally-shared memory.

13. Also, while applicants have not argued the point, the examiner considers the newly-claimed elements of applicants' microprocessors/microengines to be inherent in the Agarwal system based on Sun Microsystems 1988 version of their SPARC processor (p. 105, lines 7-8 and reference 23 under References on p. 114).

14. Applicants have argued on behalf of claim 30 that Agarwal does not teach "inactivating the context of the thread issuing the command while the command is executing. Lines 3-7 of page 107 of Agarwal read: "Therefore APRIL continues executing a single thread until a memory operation involving a remote request (or an unsuccessful synchronization attempt) is encountered. The controller forces the processor to switch to another thread, while it services the request." In other words, the context of the thread issuing the memory operation/command is inactivated while the memory operation/command continues to be executed.

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 24-25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agarawal et al. (APRIL: A Processor Architecture for Multiprocessing).

18. The reasons set forth in the examiner's previous action for rejecting claims 24-25 and 27-29 continue and are hereby incorporated by reference.

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

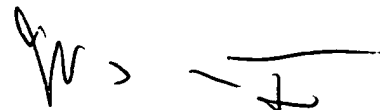
21. Any inquiry concerning this communication should be directed to William M. Treat at telephone number (571) 272-4175. The examiner works at home on Wednesdays but may

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normally be reached on Wednesdays by leaving a voice message using his office phone number.

The examiner also works a flexible schedule but may normally be reached in the afternoon and evening on three of the four remaining weekdays.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'W. M. Treat', with a horizontal line extending to the right.

**WILLIAM M. TREAT
PRIMARY EXAMINER**